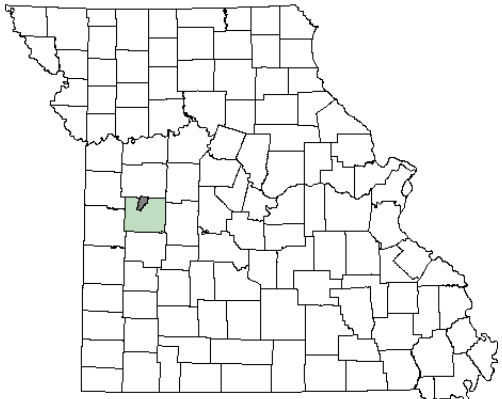
Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Honey Creek

Waterbody Segment at a Glance:

County: Henry
Nearby Cities: Clinton
Length of impairment: 3 miles
Pollutant: Sulfate
Source: Abandoned and reclaimed coal mined lands.


State map showing location of watershed

TMDL Priority Ranking: Low

Description of the Problem

Beneficial uses of Honey Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life and Human Health associated with Fish Consumption

Use that is impaired

- Protection of Warm Water Aquatic Life

Standards that apply

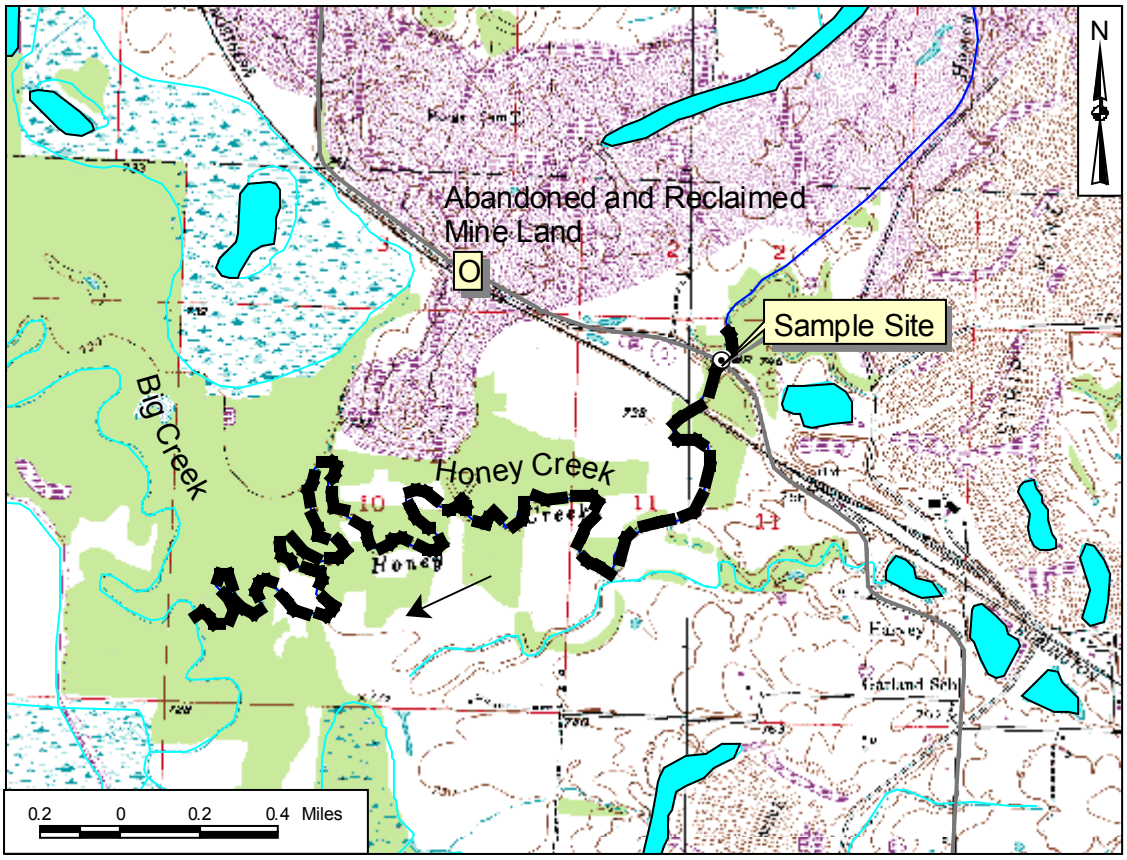
- Sulfate and chloride are linked together in Missouri's Water Quality Standards, 10 CSR20-7.031 (4)(L)1. There it states that the concentration of chloride plus sulfate shall not exceed 1000 milligrams per liter (mg/L or parts per million) for protection of aquatic life.

Sulfide minerals, commonly found in coal and the surrounding rock, oxidize when exposed to the air and are subsequently dissolved by groundwater. In many old coal mining areas, this weathering process results in large amounts of sulfate dissolved in groundwaters and in surface waters draining these mined lands. Freshwater aquatic life cannot tolerate large amounts of dissolved substances in water. The Missouri Water Quality Standard for dissolved substances is 1000 mg/L of sulfate plus chloride. Levels of chloride in Missouri streams are typically much less than 100 mg/L, so that most dissolved substances problems are related to high levels of sulfate.

The Missouri Department of Natural Resources, Land Reclamation Program reclaimed several areas along Honey Creek in the 1980's and 1990's. These included Nannemann project on 60 acres completed in 1986 at a cost of $687,757, Reliance Shop project on 72 acres at a cost of $585,447, and the Honey Creek project on 32 acres at a cost of $654,796.

Honey Creek was placed on the 303(d) list due to a few water quality measurements showing high levels of conductivity. Conductivity strongly correlates with the amount of sulfate and chloride in the water. The Department of Natural Resources began additional monitoring of Honey Creek in 2001 for sulfate and chloride.

Map Showing Sampling Site on Honey Creek, Henry County, Missouri



Sulfate, Chloride, and Specific Conductivity in Honey Creek

Date	Sulfate (mg/L)	Chloride (mg/L)	Specific Conductivity, (umhos/cm)
December, 1995	---	---	3140
July, 1997	646	9	1552
August, 2000	260	10	775

Source: Missouri Department of Natural Resources

For more information call or write:
Missouri Department of Natural Resources, Water Pollution Control Program
P.O. Box 176, Jefferson City, MO 65102-0176
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Program Home Page: www.dnr.state.mo.us/wpscd/wpcp/index.html